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This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1. – 3. (canceled)

4. (Currently Amended) The damping apparatus of ~~claim 3~~ claim 21, wherein the translatable member comprises a ball nut and the rotatable member comprises a ball screw.

5. (Currently Amended) The damper of ~~claim 3~~ claim 21, wherein the translatable member comprises a rack and the rotatable member comprises a pinion.

6. – 20. (canceled)

21. (Previously Presented) An apparatus operable to provide damping between a sprung mass and an unsprung mass, comprising:

a translatable member having a first attachment point, and adapted for generally linear translation in a forward and a reverse direction;

a rotatable member comprising a rotatable shaft that is rotatably coupled to the translatable member; wherein translation of the translatable member in one of the forward or the reverse directions produces a forward or a reverse rotation of the rotatable member and shaft, respectively;

a damping mechanism comprising a housing having a second attachment point, a first end with a bore that is adapted to rotatably receive the shaft therethrough, a sidewall having an inner surface and a second end, a hub having an outer surface that is fixed to the shaft and located within the inner surface of the sidewall such that the hub and sidewall form a channel therebetween, a means for generating a single electromagnetic field within the channel, and a fluid located within the channel having a viscosity that can be varied by the application of the electromagnetic field;

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wherein the fluid is a magnetorheological fluid;
wherein the means for applying the single electromagnetic field within the channel is a coil that is located proximate the channel;
wherein the hub comprises a cylindrical base having an outer rim and that is fixed to the shaft and a cylindrical wall extending from the outer rim and located adjacent to the inner surface of the sidewall of the housing, wherein a first portion between the sidewall of the housing and the cylindrical wall of the hub comprises the channel; and,
a cylindrical core attached to the second end of the housing and extending along and adjacent to the cylindrical wall of the hub, wherein a second portion between the cylindrical wall of the hub and the cylindrical core further comprises the channel;
wherein the core has a recess in an outer surface and the coil is located within the recess.

22. (Currently Amended) The damping apparatus of ~~claim 20~~ claim 21, wherein the cylindrical base of the hub comprises a non-magnetic material and the cylindrical wall of the hub and the cylindrical core comprise a magnetic material.

23. - 33. (canceled)

34. (Currently Amended) The apparatus of ~~claim 1~~ claim 21, wherein the sprung mass comprises a vehicle chassis.

35. (Currently Amended) The apparatus of ~~claim 1~~ claim 21, wherein the unsprung mass comprises a vehicle wheel.

36. (Previously Presented) The apparatus of claim 35, wherein the unsprung mass further comprises a vehicle axle.

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